

## Curriculum vitae

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### Sotiris Amillis

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### Education

- 1991 : High school degree, German School of Athens (<http://www.dsathen.gr/de/>)
- 1992-1998: Diploma of Biology “*Mag. rer. nat. Biologie, Botanik, Biochemie*”, Paris-Lodron University of Salzburg, Austria (<http://www.uni-salzburg.at/index.php?id=52>). Thesis: “Untersuchungen zur Pathogenität einheimischer *Streptomyces*-Stämme in einem dynamischen Boden-Mikrokosmos System”
- 1999-2004: Ph.D. (*Dr. rer. nat.*), NKUA, Department of Biology. Thesis: “*Aspergillus nidulans* as a model system for the study of purine transporters”

1991-1992: Faculty of Chemistry in the Julius-Maximilian University Würzburg, Germany

2002-2003: Military Services

Foreign Languages: German, English

### Professional Experience

#### Research Interests:

Classical and molecular genetics of fungi. Structure-function relationships, regulation of expression, signalling and intracellular trafficking of transporters

- 2004- : Postdoctoral research assistant in the laboratory of Prof. G. Diallinas, Fungal Genetics and Molecular Biology, NKUA, Dept. of Biology, Section of Botany (<http://scholar.uoa.gr/diallina/people-0>)
- 2010-2011: Research associate in the laboratory of Prof. J Strauss, Microbial Genetics-Fungal Genomics Unit, Dept. of Applied Genetics and Cell Biology, University of Natural Resources and Life Sciences Vienna, Austria, (<http://www.dagz.boku.ac.at/mgpi/strauss/team/>)
- 2014- : Laboratory teaching stuff, NKUA, Dept. of Biology, Section of Botany (<http://en.biol.uoa.gr/human-resources/laboratory-administrative-staff.html>)

#### Teaching / Tutoring:

- 2004- : Assistant in the practical undergraduate courses of the NKUA, Dept. of Biology: “General Microbiology”, “Molecular and Applied Microbiology” and diploma theses
- 2014- : Assistant in the practical undergraduate courses of “Genetics” (NKUA, Dept. of Biology), “Introduction to Botany” (NKUA, Dept. of Biology) and “General Botany” (NKUA, Dept. of Pharmacy)
- 2006- : Assistant in the NKUA, Dept. of Biology Master’s course: “Molecular Biotechnology” (<http://m-biotech.biol.uoa.gr/>)

#### Participation in Research Programmes:

- Joint Research & Technology Exchange Programmes PLATO: Hellas-France 2000-2001. Topic: “Use of *Aspergillus nidulans* as a model genetic and molecular system for studying human nucleobase transporters”, granted to G. Diallinas (NKUA, Dept. of Biology) and C. Scazzocchio (University of Paris-XI, Institute of Genetics and Microbiology, Centre d'Orsay)
- Reinforcement Program of Human Research Manpower, GSRT-PENED 2001, co-financed by the EU Social Fund. Topic: “Cloning and characterization of nucleobase transporters for the systematic development of targeted, highly specific anti-protozoan drugs”, granted to G. Diallinas (NKUA, Dept. of Biology)
- Reinforcement Program of Human Research Manpower, GSRT-PENED 2003, co-financed by the EU Social Fund. Topic: “Structure-Function relationships of purine transporters for the targeted pharmacological treatment of pathogenic fungi”, granted to G. Diallinas (NKUA, Dept. of Biology)
- Scientific & Technological Exchange Co-operations Hellas-Germany 2004-2007. Topic: “Invasive Aspergillosis: Identification of Fungal Proteins Suited as Specific Drug Gateways”, granted to G. Diallinas (NKUA, Dept. of Biology) and U. Reichard (University of Göttingen, Dept. of Medical Microbiology)
- Scientific Project Grants for the Year 2011-John S. Latsis Public Benefit Foundation. Topic: “Design of targeted drugs against pathogenic fungi”, awarded to G. Diallinas (NKUA, Dept. of Biology)
- Operational Program for Education and Lifelong Learning (THALIS-Biological and Medical sciences, NSRF 2007-2013, co-financed by the EU. Topic: “EVOTRANS, Membrane transport: Structure-function and evolutionary relationships”, granted to S. Frillingos (UoI, School of Medicine), V. Sophianopoulou (NCSR Demokritos, Dept. of Biology), N. Pouli (NKUA, Dept. of Pharmacy), C. Drainas (UoI, Fac. of Chemistry)
- Operational Program for Education and Lifelong Learning (THALIS-Biological and Medical sciences, NSRF 2007-2013), co-financed by the EU. Topic: “MINOS, Development and employment of Minos based netic and functional genomic technologies in model organisms”, granted to C. Savakis (BSRC Fleming, Institute of Cellular and Developmental Biology), M. Averof (IMBB, Institute of Molecular Biology and Biotechnology), G. Diallinas (NKUA, Dept. of Biology)

- Scientific Project Grants for the Year 2015-2016 Fondation Santé. Topic: “Transporter oligomerization, trafficking & turnover: novel insights from a model microbial eukaryote”, awarded to G. Diallinas (NKUA, Dept. of Biology)
- Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH-CREATE-INNOVATE, co-financed by the EU (2018-2021). Topic: DEEPDESOL, Development of a combined chemical and biological process for the deep desulfurization of oil products”, granted to NKUA Dept. of Biology, NTUA Dept. of Chemical Engineering, and Motor Oil Hellas SA. Coordinator: DG. Hatzinikolaou (NKUA, Dept. of Biology)
- Scientific Project Grants for the Year 2018 Fondation Santé. Topic: “Investigation of the role of the AP-1 complex in intracellular trafficking and exocytosis of clathrin-coated vesicles”, awarded to G. Diallinas (NKUA, Dept. of Biology)
- Scientific Project Grant of the Uruguayan National Agency for Research and Innovation (ANII) 2019-2021. Topic: “Deepening in the identification of structural and functional determinants of UreA”, granted to M. Sanguinetti (University of the Republic Uruguay, Faculty of Science, Dept. of Biochemistry)

## **Publications**

### Peer-reviewed journals:

(<https://www.ncbi.nlm.nih.gov/pubmed/?term=Amillis+S>)

(\* equal contribution) (# corresponding authors)

1. Amillis S\*, Koukaki M\* and Diallinas G#. (2001). Substitution F569S converts UapA, a specific uric acid-xanthine transporter, into a broad specificity transporter for purine-related solutes. *J Mol Biol* 313: 765-774. doi: 10.1006/jmbi.2001.5087
2. Cecchetto G, Amillis S, Diallinas G, Scazzocchio C and Drevet C#. (2004). The AzgA purine transporter of *Aspergillus nidulans*: characterisation of a protein belonging to a new phylogenetic cluster. *J Biol Chem* 279: 3132-3141. doi: 10.1074/jbc.M308826200 (Evaluated by F1000)
3. Amillis S, Cecchetto G, Sophianopoulou V, Koukaki M, Scazzocchio C and Diallinas G#. (2004). Transcriptional activation of purine transporters during the conidial isotropic growth phase of *Aspergillus nidulans*. *Mol Microbiol* 52: 205-216. doi: 10.1046/j.1365-2958.2003.03956.x
4. Vlanti A\*, Amillis S\*, Koukaki M and Diallinas G#. (2006). A Novel-type Substrate-selectivity Filter and ER-exit Determinants in the UapA Purine Transporter. *J Mol Biol* 31: 808-819. doi: 10.1016/j.jmb.2005.12.070
5. Amillis S, Hamari Z, Roumelioti K, Scazzocchio C and Diallinas G#. (2007). Regulation of expression and kinetic modeling of substrate interactions of a uracil transporter in *Aspergillus nidulans*. *Mol Membr Biol* 24: 206-214. doi: 10.1080/09687860601070806
6. Goudela S, Reichard U, Amillis S and Diallinas G#. (2008). Characterization and kinetics of the major purine transporters in *Aspergillus fumigatus*. *Fungal Genet Biol* 45: 459-472. doi: 10.1016/j.fgb.2007.08.001
7. Papageorgiou I, Gournas C, Vlanti A, Amillis S, Pantazopoulou A and Diallinas G#. (2008). Specific Interdomain Synergy in the UapA Transporter Determines Its Unique Specificity for Uric Acid among NAT Carriers. *J Mol Biol* 382: 1121-1135. doi: 10.1016/j.jmb.2008.08.005 (Evaluated by F1000)
8. Hamari Z\*, Amillis S\*, Drevet C, Apostolaki A, Vágvölgyi C, Diallinas G and Scazzocchio C#. (2009). Convergent evolution and orphan genes in the FUR4p-like family and characterisation of a general nucleoside transporter in *Aspergillus nidulans*. *Mol Microbiol* 73: 43-57. doi: 10.1111/j.1365-2958.2009.06738.x
9. Gournas C\*, Amillis S\*, Vlanti A\* and Diallinas G#. (2010). Substrate-induced, function-dependent, endocytosis of the UapA purine transporter by ubiquitination. *Mol Microbiol* 75: 246-260. doi: 10.1111/j.1365-2958.2009.06997.x
10. Abreu C, Sanguinetti M, Amillis S and Ramon A#. (2010). UreA, the major urea/H<sup>+</sup> symporter in *Aspergillus nidulans*. *Fungal Genet Biol* 47: 1023-1033. doi: 10.1016/j.fgb.2010.07.004
11. Gournas C, Oestreicher N, Amillis S, Diallinas G and Scazzocchio C#. (2011). Completing the purine utilization pathway of *Aspergillus nidulans*. *Fungal Genet Biol* 48: 840-848. doi: 10.1016/j.fgb.2011.03.004
12. Amillis S, Kosti V, Pantazopoulou A and Diallinas G#. (2011). Mutational analysis and modeling reveal functionally critical residues in transmembrane segments 1 and 3 of the UapA transporter. *J Mol Biol* 411: 567-580. doi: 10.1016/j.jmb.2011.06.024
13. Apostolaki A, Harispe L, Calcagno-Pizarelli A, Vangelatos I, Sophianopoulou V, Arst HN Jr, Peñalva MA, Amillis S\* and Scazzocchio C#. (2012). *Aspergillus nidulans* CkiA is an essential casein kinase I required for delivery of amino acid transporters to the plasma membrane. *Mol Microbiol* 84: 530-549. doi: 10.1111/j.1365-2958.2012.08042.x
14. Kryptou A, Kosti V, Amillis S, Myrianthopoulos V, Mikros E and Diallinas G#. (2012). Modeling, Substrate Docking and Mutational Analysis Identify Residues essential for the function and specificity of a Eukaryotic Purine-Cytosine NCS1 Transporter. *J Biol Chem* 287: 36792-36803. doi: 10.1074/jbc.M112.400382
15. Karachaliou M\*, Amillis S\*, Evangelinos M, Kokotos AC, Yalelis V and Diallinas G#. (2013). The arrestin-like protein ArtA is essential for ubiquitination and endocytosis of the UapA transporter in response to both broad-range and specific signals. *Mol Microbiol* 88: 301-317. doi: 10.1111/mmi.12184 (Evaluated by F1000Prime)
16. Schinko T, Gallmetzer A, Amillis S and Strauss J#. (2013). Pseudo-constitutivity of nitrate-responsive genes in nitrate reductase mutants. *Fungal Genet Biol* 54: 34-41. doi: 10.1016/j.fgb.2013.02.003
17. Sanguinetti M, Amillis S, Pandano S, Scazzocchio C and Ramón A#. (2014). Modeling and mutational analysis of *Aspergillus nidulans* UreA, a member of the subfamily of urea/H<sup>+</sup> transporters in fungi and plants. *Open Biol* 4: 140070. doi: 10.1098/rsob.140070
18. Galanopoulou K, Scazzocchio C, Galinou M, Weiwei L, Borbolis F, Karachaliou M, Oestreicher N, Hatzinikolaou DG, Diallinas G# and Amillis S\*. (2014). Purine utilization proteins in the Eurotiales: Cellular compartmentalization, phylogenetic conservation and divergence. *Fungal Genet Biol* 69: 96-108. doi: 10.1016/j.fgb.2014.06.005

19. Sá-Pessoa J, Amillis S, Casal M and Diallinas G<sup>#</sup>. (2015). Expression and specificity profile of the major acetate transporter AcpA in *Aspergillus nidulans*. *Fungal Genet Biol* 76: 93-103. doi: 10.1016/j.fgb.2015.02.010
20. Martzoukou O, Karachaliou M, Yalelis V, Leung J, Byrne B, Amillis S and Diallinas G<sup>#</sup>. (2015). Dimerization of the UapA purine transporter is critical for ER-exit, plasma membrane localization and turnover. *J Mol Biol* 427: 2679-2696. doi: 10.1016/j.jmb.2015.05.021
21. Athanasopoulos A, Gournas C, Amillis S and Sophianopoulou V<sup>#</sup>. (2015). Characterization of AnNce102 and its role in eisosome stability and sphingolipid biosynthesis. *Sci Rep* 5: 15200. doi: 10.1038/srep15200
22. Evangelinos M, Martzoukou O, Chorozián K, Amillis S and Diallinas G<sup>#</sup>. (2016). BsdA<sup>Bsd2</sup>-dependent vacuolar turnover of a misfolded version of the UapA transporter along the secretory pathway: prominent role of selective autophagy. *Mol Microbiol* 100: 893-911. doi: 10.1111/mmi.13358
23. Alguel Y, Amillis S, Leung J, Lambrinidis G, Capaldi S, Scull NJ, Craven G, Iwata S, Armstrong A, Mikros E, Diallinas G, Cameron AD and Byrne B<sup>#</sup>. (2016). Structure of eukaryotic purine/H<sup>+</sup> symporter UapA suggests a role for homodimerization in transport activity. *Nat Commun* 7: 11336. doi: 10.1038/ncomms11336
24. Sioupouli G, Lambrinidis G, Mikros E, Amillis S<sup>#</sup> and Diallinas G<sup>#</sup>. (2017). Cryptic purine transporters in *Aspergillus nidulans* reveal the role of specific residues in the evolution of specificity in the NCS1 family. *Mol Microbiol* 103: 319-332. doi: 10.1111/mmi.13559
25. de Vries RP<sup>#</sup>, Riley R, Wiebenga A, Aguilar-Osorio G, Amillis S, ... , Dyer PS and Grigoriev VI. (2017). Comparative genomics reveals high biological diversity and specific adaptations in the industrially and medically important fungal genus *Aspergillus*. *Genome Biol* 18: 28. doi: 10.1186/s13059-017-1151-0
26. Martzoukou O, Amillis S, Zervakou A, Christoforidis S and Diallinas G<sup>#</sup>. (2017). The AP-2 complex has a specialized clathrin-independent role in apical endocytosis and polar growth in fungi. *Elife* 6: e20083. doi: 10.7554/eLife.20083
27. Papadaki GF, Amillis S and Diallinas G<sup>#</sup>. (2017). Substrate specificity of the FurE transporter is determined by cytoplasmic terminal domain interactions. *Genetics* 207: 1387-1400. doi: 10.1534/genetics.117.300327
28. Pyle E, Kalli A, Amillis S, Hall Z, Hanyaloglu A, Diallinas G, Byrne B and Politis A<sup>#</sup>. (2018). Structural lipids enable the formation of functional oligomers of the eukaryotic purine symporter UapA. *Cell Chem Biol* 25(7):840-848.e4. doi: 10.1016/j.chembiol.2018.03.011
29. Martzoukou O, Diallinas G<sup>#</sup>, Amillis S<sup>#</sup>. (2018). Secretory Vesicle Polar Sorting, Endosome Recycling and Cytoskeleton Organization Require the AP-1 Complex in *Aspergillus nidulans*. *Genetics* 209: 1121-1138. doi: 10.1534/genetics.118.301240

Book Chapters:

Alguel Y, Amillis S, Pyle E, Politis A, Mikros E, Cameron AD, Diallinas G, Byrne B. (2018). Structural aspects of UapA, the H<sup>+</sup>-xanthine/uric acid transporter from *Aspergillus nidulans*. In: Roberts G., Watts A., European Biophysical Societies (eds) Encyclopedia of Biophysics. Springer, Berlin, Heidelberg doi: 10.1007/978-3-642-35943-9\_10089-1

Congresses-Workshops:

International: 45  
National: 28